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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,648	11/26/2003	Allan R. Wells	89190.070503/DP-308340	8779
22851 7590 08/14/2008 DELPHI TECHNOLOGIES, INC. M/C 480-410-202 PO BOX 5052 TROY, MI 48007				
EXAMINER				
MARTIN, ANGELA J				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
08/14/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/723,648

**Applicant(s)**

WELLS ET AL.

**Examiner**

ANGELA J. MARTIN

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/31/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-9,14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is responsive to the Remarks filed on July 31, 2008. Applicant's arguments, see pp. 7-9, filed 7/31/08, with respect to the rejection(s) of claim(s) 1, 3-9, 14, 16-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as described below.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-9, 14, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang, U.S. Pat. Application Pub. 2002/0110720 A1.
3. Rejection of claims 1, 3-9, 18-20 drawn to a method of forming a fuel cell assembly; claims 14, 16, 17 drawn to a fuel cell assembly.

Yang teaches a method for forming a fuel cell assembly, comprising the steps of:  
a) forming a fuel cell sub-assembly module containing at least two bonded together fuel

cell units, said at least two fuel cell units each including an anode, a cathode, and a membrane electrode assembly (0019; 0034);

b) testing said sub-assembly module (0019); and

c) joining together a plurality of sub-assembly modules to form said fuel cell assembly (0034). A method in accordance with claim 1 wherein each of said sub-assembly modules comprises a plurality of bipolar plate assemblies (abstract) interspersed with a plurality of membrane electrode assembly elements (abstract).It teaches a method in accordance with Claim 1 wherein said forming step for each of said sub-assembly modules includes the steps of:

a) providing an assembly fixture having at least one alignment element for receiving fuel cell components (0013, 0016):

b) selecting  $n+1$  number of bipolar plate assemblies and  $n$  number of membrane electrode assembly elements, each bipolar plate assembly having an anode and a cathode, wherein  $n$  is the number of said plurality of fuel cell units desired in said sub-assembly module (0034);

c) providing an elastomeric gasket on one of said anode and cathode of  $n+1$  bipolar plate assemblies (0013, 0015);

e) installing onto said assembly fixture one of said  $n+1$  bipolar plate assemblies, said alignment element engaging said one of said  $n+1$  bipolar plate assemblies (0013, 0016);

f) installing onto said assembly fixture a membrane electrode assembly element into contact with said just-installed bipolar plate assembly (0030); g) installing onto said assembly fixture another of said  $n+1$  bipolar plate assemblies, the anode of said one or

said another of said n+1 bipolar plate assemblies being disposed adjacent said cathode of the other of said one or said another of said n+1 bipolar plate assemblies, and said alignment element engaging said bipolar plate assembly being installed (0013, 0016); repeating steps f) and g) for the remaining number of provided bipolar plate assemblies and provided MEA elements to form a stack of n fuel cell units;

i) applying compressive force (abstract, 0013, 0016, 0017) to said stack of n fuel cell units whilst curing said curable liquid rubber material of said at least one of said elastomeric gasket and said gasketing element to form a fuel cell sub-assembly module (0020, 0031, 0032). A method in accordance with Claim 4 wherein at least one of said membrane electrode assemblies includes gas diffusion layers (claim 1). A method in accordance with Claim 4 wherein said at least one alignment element is a rod (0013, 0016), wherein each of said bipolar plate assemblies include a bore (Fig. 2, rods 9 fit through bores), and wherein each of said bores receive said rod to align said bipolar plate assemblies (implied, since it discloses tie rods in which a bore would go through (Fig. 2). A fuel cell assembly comprising a plurality of fuel cells bonded together to form a plurality of fuel cell sub-assembly modules, wherein said plurality of fuel cell sub-assembly modules are bonded together to form said fuel cell assembly, wherein at least one of said fuel cells includes a bipolar plate assembly and a membrane electrode assembly (0034). A fuel cell assembly in accordance with Claim 14 wherein at least one gasket and at least one gasketing element are positioned between each of said plurality of fuel cells (0015-0017). A fuel cell assembly in accordance with Claim 14 wherein at least one gasket and at least one gasketing element are positioned between each of

said plurality of fuel cell sub-assembly modules (0015-0017). A method in accordance with Claim 1 wherein said at least two fuel cell units are bonded together using at least one elastomeric gasket and at least one gasketing element (0015-0017). A method in accordance with Claim 1 wherein said plurality of sub-assembly modules are joined together using at least one elastomeric gasket and at least one gasketing element (0015-0017).

Thus, the claims are anticipated.

### ***Response to Arguments***

2. Applicant's arguments with respect to above claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshimoto et al., U.S. Pat. 6,180,274 B1 teach a fuel cell stack. Carlstrom, Jr , U.S. Pat. 6,071,635 teach a fuel cell stack.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGELA J. MARTIN whose telephone number is

(571)272-1288. The examiner can normally be reached on Monday-Friday from 10:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJM  
/Angela J. Martin/  
Examiner, Art Unit 1795